<110> AMRAD Operations Pty Ltd

<120> A NOVEL MAMMALIAN GENE, bcl-2, BELONGS TO THE bcl-2
FAMILY OF APOPTOSIS-CONTROLLING GENES

<130> 2096584

<140> 09/155,327
<141> 1997-03-27

<150> PN8965
<151> 1996-03-27

<160> 9

<170> PatentIn Ver. 2.1

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ttt gta ggt tat aag ctg agg cag aag ggt tat gtc tgt gga gct ggc      96
Phe Val Gly Tyr Lys Leu Arg Gln Lys Gly Tyr Val Cys Gly Ala Gly
                20                  25                  30


ccc ggg gag ggc cca gca gct gac ccg ctg cac caa gcc atg cgg gca     144
Pro Gly Glu Gly Pro Ala Ala Asp Pro Leu His Gln Ala Met Arg Ala
            35                  40                  45


gct gga gat gag ttc gag acc cgc ttc cgg cgc acc ttc tct gat ctg     192
Ala Gly Asp Glu Phe Glu Thr Arg Phe Arg Arg Thr Phe Ser Asp Leu
        50                  55                  60


gcg gct cag ctg cat gtg acc cca ggc tca gcc cag caa cgc ttc acc     240
Ala Ala Gln Leu His Val Thr Pro Gly Ser Ala Gln Gln Arg Phe Thr
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cag gtc tcc gac gaa ctt ttt caa ggg ggc ccc aac tgg ggc cgc ctt     288
Gln Val Ser Asp Glu Leu Phe Gln Gly Gly Pro Asn Trp Gly Arg Leu
                85                  90                  95


gta gcc ttc ttt ctc ttt ggg gct gca ctg tgt gct gag agt gtc aac     336
Val Ala Phe Phe Leu Phe Gly Ala Ala Leu Cys Ala Glu Ser Val Asn
                100                 105                 110


aag gag atg gaa cca ctg gtg gga caa gtg cag gag tgg atg gtg gcc     384
Lys Glu Met Glu Pro Leu Val Gly Gln Val Gln Glu Trp Met Val Ala
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gcg gag ttc aca gct cta tac ggg gac ggg gcc ctg gag gag gcg cgg    480
Ala Glu Phe Thr Ala Leu Tyr Gly Asp Gly Ala Leu Glu Glu Ala Arg
145             150             155             160

cgt ctg cgg gag ggg aac tgg gca tca gtg agg aca gtg ctg acg ggg    528
Arg Leu Arg Glu Gly Asn Trp Ala Ser Val Arg Thr Val Leu Thr Gly
                165             170             175

gcc gtg gca ctg ggg gcc ctg gta act gta ggg gcc ttt ttt gct agc    576
Ala Val Ala Leu Gly Ala Leu Val Thr Val Gly Ala Phe Phe Ala Ser
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Lys


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Ala Gly Asp Glu Phe Glu Thr Arg Phe Arg Arg Thr Phe Ser Asp Leu
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Ala Ala Gln Leu His Val Thr Pro Gly Ser Ala Gln Gln Arg Phe Thr
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Gln Val Ser Asp Glu Leu Phe Gln Gly Gly Pro Asn Trp Gly Arg Leu
                85   90   95

Val Ala Phe Phe Leu Phe Gly Ala Ala Leu Cys Ala Glu Ser Val Asn
                100   105   110

Lys Glu Met Glu Pro Leu Val Gly Gln Val Gln Glu Trp Met Val Ala
                115   120   125

Tyr Leu Glu Thr Arg Leu Val Asp Trp Ile His Ser Ser Gly Gly Trp
        130   135   140

Ala Glu Phe Thr Ala Leu Tyr Gly Asp Gly Ala Leu Glu Glu Ala Arg
145   150   155   160

Arg Leu Arg Glu Gly Asn Trp Ala Ser Val Arg Thr Val Leu Thr Gly
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Ala Val Ala Leu Gly Ala Leu Val Thr Val Gly Ala Phe Phe Ala Ser
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Lys

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6

ttt gta ggc tat agg ●●g agg cag aag ggt tat gtc tgt g●● gct ggg   96
Phe Val Gly Tyr Arg Leu Arg Gln Lys Gly Tyr Val Cys Gly Ala Gly
            20   25   30

cct ggg gaa ggc cca gcc gcc gac ccg ctg cac caa gcc atg cgg gct   144
Pro Gly Glu Gly Pro Ala Ala Asp Pro Leu His Gln Ala Met Arg Ala
            35   40   45

gct gga gac gag ttt gag acc cgt ttc cgc cgc acc ttc tct gac ctg   192
Ala Gly Asp Glu Phe Glu Thr Arg Phe Arg Arg Thr Phe Ser Asp Leu
            50   55   60

gcc gct cag cta cac gtg acc cca ggc tca gcc cag caa cgc ttc acc   240
Ala Ala Gln Leu His Val Thr Pro Gly Ser Ala Gln Gln Arg Phe Thr
 65   70   75   80

cag gtt tcc gac gaa ctt ttc caa ggg ggc cct aac tgg ggc cgt ctt   288
Gln Val Ser Asp Glu Leu Phe Gln Gly Gly Pro Asn Trp Gly Arg Leu
                85   90   95

gtg gca ttc ttt gtc ttt ggg gct gcc ctg tgt gct gag agt gtc aac   336
Val Ala Phe Phe Val Phe Gly Ala Ala Leu Cys Ala Glu Ser Val Asn
                100   105   110

aaa gaa atg gag cct ttg gtg gga caa gtc cag gat tgg atc gtg gcc   384
Lys Glu Met Glu Pro Leu Val Gly Gln Val Gln Asp Trp Ile Val Ala
            115   120   125

tac ctg gag aca cgt ctg gct gac tgg atc cac agc agt ggc ggc tgg   432
Tyr Leu Glu Thr Arg Leu Ala Asp Trp Ile His Ser Ser Gly Gly Trp
            130   135   140

gcg gac ttc aca gct cta tac ggg gac ggg gcc ctg gag gac gca cgg   480
Ala Asp Phe Thr Ala Leu Tyr Gly Asp Gly Ala Leu Glu Asp Ala Arg
145   150   155   160

cgt ctg cgg gag ggc aac tgg gca tga gtg agc aca gtg gtg acg ggg   528
Arg Leu Arg Glu Gly Asn Trp Ala Val Ser Thr Val Val Thr Gly Ala
            165   170   175

gcc gtg gca ctg ggg gcc ctg gta act gta ggg gcc ttt ttt gct agc   576

7

Val Ala Leu Gly Ala Leu Val Thr Val Gly Ala Phe Phe Asn Ser Lys
            180   185   190

aag tg   581

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                20   25   30
Pro Gly Glu Gly Pro Ala Ala Asp Pro Leu His Gln Ala Met Arg Ala
            35   40   45
Ala Gly Asp Glu Phe Glu Thr Arg Phe Arg Arg Thr Phe Ser Asp Leu
        50   55   60
Ala Ala Gln Leu His Val Thr Pro Gly Ser Ala Gln Gln Arg Phe Thr
 65   70   75   80
Gln Val Ser Asp Glu Leu Phe Gln Gly Gly Pro Asn Trp Gly Arg Leu
                85   90   95
Val Ala Phe Phe Val Phe Gly Ala Ala Leu Cys Ala Glu Ser Val Asn
                100   105   110
Lys Glu Met Glu Pro Leu Val Gly Gln Val Gln Asp Trp Ile Val Ala
            115   120   125
Tyr Leu Glu Thr Arg Leu Ala Asp Trp Ile His Ser Ser Gly Gly Trp
    130   135   140
Ala Asp Phe Thr Ala Leu Tyr Gly Asp Gly Ala Leu Glu Asp Ala Arg
145   150   155   160
Arg Leu Arg Glu Gly Asn Trp Ala Val Ser Thr Val Val Thr Gly
                165   170   175
Ala Val Ala Leu Gly Ala Leu Val Thr Val Gly Ala Phe Phe Ala Ser
                180   185   190
Lys

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